

REFERENCES

- ALLEN-MERSH, M. G. & FORSYTH, D. M. (1958). *Tubercle, Lond.* **39**, 108.
 BARR, H. S. & EVANS, R. (1941). *J. Lar. Otol.* **56**, 159.
 BAUER, E. (1956). *Mscr. Ohrenheilk. Lar-Rhinol.* **90**, 257.
 BECK, C. (1920). *Surg. Clin. Chicago*, **4**, 1263.
 BERMAN, H. & FEIN, M. J. (1932). *Ann. Surg.* **95**, 52.
 BLEGVAD, O. (1933). *Acta. ophthal.* **11**, 345.
 BOBROW, M. L., & FRIEDMAN, S. (1956). *Am. J. Surg.* **91**, 389.
 BOYES, J., JONES, J. D. T. & MILLER, F. J. W. (1956). *Archs Dis. Childh.* **31**, 81.
 CASHMAN, J. M. (1959). *Proc. R. Soc. Med.* **52**, 297.
 COLLINS, D. H. & SHUCKSMITH, H. S. (1953). *J. Path. Bact.* **66**, 399.
 CORNER, B. D. & BROWN, N. J. (1955). *Thorax*, **10**, 99.
 DAVIS, S. D. & COMSTOCK, G. W. (1961). *J. Pediat.* **58**, 771.
 DEBRÉ, R., LAMY, M., KOUPEKNIK, C., COSTIL, L. & COUTEL, Y. (1951). *Annls. Méd.* **52**, 433.
 ENGRAEK, H. C. (1964). *Acta tuberc. scand.* **44**, 108.
 GRENVILLE-MATHIERS, R., HARRIS, W. C. & TRENCHARD, H. J. (1960). *Tubercle, Lond.* **41**, 181.
 HEILMAN, K. M. & MUSCHENHEIM, C. (1965). *New. Eng. J. Med.* **273**, 1035.
 HEVENOR, E. P. & CLARK, C. E. (1950). *Surgery Gynec. Obstet.* **90**, 746.
 HEYCOCK, J. B. & NOBLE, T. C. (1961). *Tubercle, Lond.* **42**, 25.
 HUDSON, F. P. (1956). *Archs. Dis. Childh.* **31**, 136.
 HUGGERT, A. (1951). *Acta ophthal.* **29**, 339.
 JENTGENS, H. (1963). *Tuberkulosezeit.* **17**, 479.
 LATTIMER, J. K., COLMORE, H. P., SANGER, G., ROBERTSON, D. H. & McLELLAN, F. C. (1954). *Am. Rev. Tuberc. pulm. Dis.* **69**, 618.
 LEWIS, E. (1946). *J. Urol.* **56**, 737.
 McDOWELL, C. (1954). *Amer. Rev. Tuberc.* **69**, 612.
 MILLER, F. J. W. (1962). In Health and Tuberculosis Conference, p. 76, Chest and Heart Association, London.
 MILLER, F. J. W., SEAL, R. M. E. & TAYLOR, M. D. (1963). *Tuberculosis in Children*, pp. 311, 466. London: J. & A. Churchill.
 NICHOLAS, G. W. (1923). *Guy's Hosp. Rep.* **72**, 333.
 OWEN, T. K. (1946). *J. Path. Bact.* **58**, 295.
 PLICINSKI, K. (1952). *Tubercle, Lond.* **33**, 40.
 RICH, A. R. (1951). *The Pathogenesis of Tuberculosis*, 2nd ed. p. 72. Oxford: Blackwell.
 TAMURA, M., OGAWA, G., SAGAWA, I. & AMANO, S. (1955). *Amer. Rev. Tuberc.* **71**, 465.
 WOOD, A. C. (1951). In *Systemic Ophthalmology*, edited by A. Sorsby, p. 151. London: Butterworths.

BOOK REVIEWS

Resistance to Tuberculosis.

MAX B. LURIE. Harvard University Press. London: Oxford University Press, 1965. Pp. 391. £4.

In this book, Prof. Lurie describes 40 years' work done at the Henry Phipps Institute on natural and acquired resistance to experimental tuberculosis. Each of the chapters presents a particular aspect of his studies in some detail, followed by a review of the relevant literature. They are arranged broadly in the order that the work was done, and are summarised in the last chapter. The book is thus a monograph rather than a general textbook of the subject.

The first four chapters deal with primary and reinfection tuberculosis, mainly in rabbits infected with human and bovine organisms by artificial routes, such as subcutaneous or intravenous inoculation. The events are considered first at the level of the whole animal and of the organ. Then, in a thorough analysis of cellular response, it is concluded that the activity of the macrophage is the most important factor in resistance to tuberculosis. The changes in the macrophage following an infection may be stimulated by immunologically specific mechanisms, but result in a non-specific increase in the ability to ingest particles of all sorts and in the prevention of the growth of organisms. For instance, a close parallelism exists between activation of the immune macrophage by tubercle

bacilli and corresponding changes brought about by endotoxin of gram-negative bacteria. Furthermore, immune macrophages inhibit the growth not only of tubercle bacilli but also of other intracellular organisms, such as *Brucella* and *Listeria*.

In succeeding chapters, Prof. Lurie describes two techniques particularly associated with his name. The first is the development of equipment for airborne infection with accurately measured doses of bacilli. The second is the breeding of strains of rabbits which vary in their native susceptibility to tuberculosis. Further studies using the airborne infection method on these strains of rabbit made possible a more quantitative examination of the relationships between native and acquired immunity, particularly at different dose levels of bacilli. Attempts to define the mechanisms underlying variation in native resistance led on to investigation of the function of the thyroid and the adrenal cortex. Administration of cortisone and thyroidectomy were both found to lower resistance and were associated with accumulation of bacilli in macrophages. The text then returns to the macrophage and describes recent work in which certain enzymatic activities were found to be higher in cells from resistant breeds of rabbits than from sensitive breeds and were also higher in immune than in normal cells. It is suggested that at least part of the antibacterial activity of macrophages from animals with native and acquired resistance and from those with hyperthyroidism may be due to increased activity of enzymes associated with lysosomes, and that cortisone may permit growth of bacilli within macrophages by reducing the permeability of the lysosomal membrane and thus delaying the release of enzymes into the vacuole surrounding the bacilli. Finally there is a chapter discussing common denominators between resistance to tuberculosis and to other diseases, particularly infections with vaccinia virus and adenocarcinoma of the uterus.

The publication of this book makes more readily accessible studies undertaken by Prof. Lurie and his collaborators, which are probably the most important contributions to our present knowledge of resistance and immunity in tuberculosis. The review of the literature in each chapter is selective, but includes a large number of modern references and greatly increases the value of the text. We can now look forward to further enquiries on two key subjects, the nature of the stimulus that activates the immune macrophage and the mechanism by which the growth of the organism, whether a tubercle bacillus or other intracellular parasite, is inhibited within the cell.

Textbook of Pulmonary Diseases.

Edited by Gerald L. Baum. Little, Brown & Co., Boston. 1965. Pp. 737. £9.15/-.

This large and expensive new book is an attempt to provide a textbook of pulmonary disease better than any currently available. It is edited by Dr. Gerald Baum, chief of the Pulmonary Diseases Section of the Veterans Administration Hospital, Cincinnati. There are 18 contributing authors all of whom have special experience in the aspect of pulmonary disease on which they write. It is a serious and largely successful attempt to cover this vast subject within a single volume. It is said to be written for 'the specialist in pulmonary diseases, the internist and the physician'. To present such a large canvas before such a mixed audience is a highly difficult task and the considerable degree of success achieved owes much to the readability of the text, the clarity with which authors have presented their views and the high quality of production of the book.

Most of the contributors display a gratifying knowledge of contributions made to their special subject from abroad as well as at home. The references are full and well selected. A major defect however is that in many chapters they are not up to date. In that on tuberculosis, for example, there is not a single reference to any paper in the world literature written after 1962. However, the general quality of the book leads one to hope that further editions will be called for and perhaps if the latent period between writing and publication can be shortened a work which is both up-to-the-minute and valuable will result.